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Our Vision is to realize the tremendous potential of BNSF Railway Company by providing transportation services that consistently meet our customers’ expectations.

EVIDENCES OF SUCCESS
We will know we have succeeded when:
• Our customers find it easy to do business with us, receive 100-percent on-time, damage-free service, accurate and timely information regarding their shipments, and the best value for their transportation dollar.
• Our employees work in a safe environment free of accidents and injuries, are focused on continuous improvement, share the opportunity for personal and professional growth that is available to all members of our diverse work force, and take pride in their association with BNSF.
• Our owners earn financial returns that exceed other railroads and the general market as a result of BNSF’s superior revenue growth and operating ratio, and a return on invested capital that is greater than our cost of capital.
• The communities we serve benefit from our sensitivity to their interests and to the environment in general, our adherence to the highest legal and ethical standards, and the participation of our company and our employees in community activities.

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ON THE COVER
A train heads east over BNSF’s Lyle Bridge on the Columbia River Gorge route between Vancouver and Wishram, Wash. Photo by Laszio Bencze.
2014 has been a challenging year for all of us, as teams across BNSF focus on increasing velocity and making the most of our existing network, while adding the capacity we need to handle continued growth – and above all, ensuring that we work safely.

Watching the tenacity and dedication of our people in the face of these challenges, I’m reminded of a few key phrases in our BNSF Vision. Of course, these joint efforts are all about restoring our service levels and meeting our customers’ expectations. But we are also working so hard because we want to realize the tremendous potential of BNSF. We are adding a tremendous amount of capacity this year beyond what we’ve ever done in our history. This is a defining moment for us. As we add people, locomotives, track and other resources that lay the foundation for success and growth, we are shaping our future as a company.

As always, we begin with safety. We are all saddened by the recent loss of Dawn Trettenero and Robert Limon. As we reflect on these incidents, we are reminded that the operating environment is unforgiving, and there is clearly further progress to be made. We are confident that we have the right processes in place to run this railroad without loss of life or serious injury. Our best-ever safety metrics demonstrate that our focus on Approaching Others About Safety is helping us foster a strong culture of commitment. In thousands of conversations every day across the railroad, our people are acting on their commitment to reduce risk and look out for each other. Our ultimate goal is to ensure that every employee goes home safely every day.

After safety, restoring velocity and service to customers is the most important thing we do. In recent months, we’ve increased on-time performance and reduced terminal dwell and trains holding for power, and we are achieving this while volumes also continue to increase. While recognizing our progress, we also are not providing the level of service our customers expect. Because we are not keeping up with demand, we are not taking advantage of the full potential growth across our four business units. We still have work to do, but I know that we will be successful as we continue improving our service. Providing best-in-class service is our birthright.

So what are we doing to ensure that we achieve our vision? Paramount to handling the increased demand is expanding capacity. We’re on course to exceed the $5 billion in planned capital investment this year, as we expand and maintain track and facilities and add locomotives and equipment where we are seeing the greatest growth. In fact, we will have 75 miles of new double-track railroad by year’s end. We have also begun work on other key capacity projects in order to get the necessary capacity in place as quickly as possible in 2015. Expect another significant commitment in capital spending next year.

By the end of 2014, we’ll have hired about 6,300 new people, which exceeds the goals we’d set at the beginning of the year. Our workforce is expanding beyond the rate of attrition and volume growth. To put this in perspective, our 2014 new hires represent 14 percent of our workforce of 46,000.

We’re also taking measures to increase efficiency, including adjusting train routes and transportation service plans as needed to relieve congestion as well as allow for maintenance windows, and adding another layer of defense to our winter preparedness plans.

At BNSF, we’re tough-minded optimists, and we are building a strong foundation for the future. Together, we’re focused on realizing our tremendous potential as we work to meet our customers’ expectations and grow our business. Thank you for all you’re doing today and all you’re going to do in the weeks and months ahead to ensure our success.
Technical Training Center prepares the next generation of railroaders

BNSF’s Technical Training team helps ensure that training is as practical and “real life” as possible, as part of its focus on building and sustaining a safe and highly skilled workforce for a wide range of jobs and tasks.

BNSF’s main training hub, the Technical Training Center (TTC) on the campus of Johnson County Community College (JCCC) in Overland Park, Kan., emphasizes simulation training and hands-on experience to ensure that the training is as realistic as possible.

The 130,000-square-foot TTC is comprised of state-of-the-art facilities, laboratories and equipment dedicated to the training and development of Engineering, Telecommunications, Mechanical and Transportation employees. Students include those who are newly hired as well as railroad veterans reinforcing past training or learning new skills.

“We utilize a blended curriculum,” says Lynné Joplin, director, Training Services. “A combination of web-based training (WBT), classroom training, simulator training and field training is leveraged to offer BNSF employees the learning experiences needed to be successful in their work.”

In an average year, BNSF trains about 10,000 employees at the TTC, but this year the demand is even higher. As of Oct. 1, BNSF had hired more than 6,000 new scheduled employees. The hiring surge has created additional training demand for the Safety & Technical Training group, which is responsible for providing training and certification that meets Federal Railroad Administration requirements and BNSF standards.
Safety & Technical Training instructors are selected from veteran railroaders who have extensive technical and field experience in their craft.

“BNSF identifies craft experts who have a passion for instruction and places them in our Master Instructor program. This program introduces them to classroom management, educational competencies and coursework management that facilitate adult learning – basically how to efficiently transfer knowledge,” says Joplin.

The Master Instructor program takes about one year to complete. Upon completion, instructors are certified by JCCC and teach both at the TTC and in the field, where they provide on-site new-hire classes, rule reviews and recertification training.

Historic demand for onboarding Transportation employees

“Two years ago, we had 33 Transportation instructors,” says Tobin Zerfas, director, Training Services. “Today, we have 74. It’s been a great opportunity to bring in experienced field employees to teach our new hires.” With the increased training needs, qualified instructors are just one resource in high demand.

In addition to providing 19 locomotive simulators at the TTC, the team also maintains and develops programming for a network of NetSimulators installed at field locations. “We had 48 locomotive simulators across the network at the end of last year,” says Jitendra Chevuru, manager II, Railroad Training. “With the influx of new hires and the training needed for upcoming positive train control (PTC) implementation, we have added another 22.”

The locomotive simulators at the TTC are used for the initial certification training for new engineers. Although most other NetSims are installed in training rooms at major division locations throughout the system, four portable versions move around the network in mobile trailers for remote training and recertification purposes. Each field simulator is networked back to the TTC, where instructors can monitor up to eight simulators at once from six different training administration stations.

Historically, the TTC has conducted first-shift training with a swing shift added when needed. This year, the TTC has expanded to cover three shifts for Transportation training, holding classes 24/7.

“The increase in trainees this year and the move to three shifts have been big developments from a support perspective,” says Scott Schafer, general director, Technical Training. “Our support staff is now available around the clock for simulator and computer support. It is a challenge, but it’s also exciting to be a part of BNSF’s growth.”

Innovations in Engineering training

Innovation and collaboration have been key in helping to continuously improve the Engineering training programs. “We have had to look for ways that we can improve training,” says Alex Franco, director, Training Services. “We want to create programs that are engaging and that respond to the needs of our field employees.”

One example is the creation of the Engineering Certification organization under director Frank Moffitt. Historically, employees became FRA-qualified by successfully completing a two-tiered BNSF FRA training program (Tier I and Tier II). This training allowed employees to work positions requiring an FRA qualification, including track inspection positions. With the implementation of an engineering certification process, Moffitt now has added a Tier III program requiring specific

“Web-based training is another important tool in the classroom.”

- Lynné Joplin
Director, Training Services

Transportation employees train on an open-air track lab outfitted with rails and ties.
supervisors and all employees who wish to work track inspection positions to be BNSF Tier III-qualified. This new tier ensures that track inspectors are equipped to perform inspections to BNSF’s industry-leading standards.

“Our engineering training services and instructional design team partnered with Frank (Moffitt) and his certification team to create a virtual railroad incorporating 3-D track models to enhance track geometry training within the Tier III course,” says Franco. (See sidebar.)

The collaboration with the TTC to create a virtual representation of specific track components that inspectors encounter in the field, including turnouts, curves, tangent track and ties in various conditions, is industry leading. These virtual track components are built to scale and can be manipulated by users to identify defects. This blended approach to training provides a more engaging experience for the learner and has improved the field certification process that follows classroom training.

“Typically, trainers in the field showed employees a functioning component, explaining what they would see if the component were damaged,” says Franco. “With the virtual track inspection program, they can view and interact with degraded components. They can dismantle an entire component – every nut and bolt is there.”

BNSF and Johnson County Community College (JCCC) partnered to establish the National Academy of Railroad Sciences (NARS) in 1994 to provide training and certification to the North American rail industry. Over the past 20 years, that partnership has forged a high-quality and innovative program.

Most recently, Bill Snyder, BNSF media services instructional developer, worked with JCCC faculty to develop an internship program that draws from the college’s animation student talent pool to develop 3-D models for use in BNSF’s training curriculum.

“The interns create 3-D models based on real-world objects. These objects can then be used in BNSF’s training curriculum as images, videos or animations,” explains Snyder. “The visuals they develop become a part of our asset library and are available for us to use in future curriculum development projects as needed.”

Recently, the students completed a virtual environment training program on track inspections for the Engineering Department. “We provided highly detailed 3-D models that were used to create a virtual environment that allows the trainee to inspect the different components of track – ties, tie plates, spikes, anchors, frogs, ballast, rails, etc. – almost as if the trainees are doing it in person,” says Snyder.

The internship program and the assets it provides are examples of the mutually beneficial relationship enjoyed by BNSF and JCCC through the NARS program.
In addition to locomotive simulators for Transportation training, the TTC houses four crane operator simulators to aid in the instruction of both operators and mechanics.

“These ultra-realistic simulators allow operators to get comfortable with the controls of the crane in a risk-free environment before we train them on the real thing,” says Mike Alexander, manager, Work Equipment Training. “They also allow us to make better use of class time, as one group of students can train on the simulators while another group operates the cranes.”

Like locomotive simulators, the crane simulators have the same controls as the real ones and sync to a high-resolution virtual environment. For example, instructors can simulate weather conditions such as wind and rain to teach crane operators how to control loads in adverse conditions.

**New model for Mechanical proficiency**

Like Engineering, Mechanical is altering some of its training programs based on new labor agreements and a desire to increase training efficiency and effectiveness.

“We are moving from a time-based to a proficiency-based apprenticeship for our electricians and machinists,” says Joe Mahoney, manager II, Railroad Training.

Traditionally, apprenticeships for electricians lasted for 976 days, machinists for 732. Under these new agreements, electricians and machinists will soon be able to test out of their apprenticeship to full journeyman status more quickly after joining BNSF.

“We are shifting our training from a one-size-fits-all approach,” says Mahoney. “With this new model, we look at the strengths and opportunities for improvement of individuals based on BNSF standards and then tailor instruction around those development needs. It is advantageous for both BNSF and the employee.”

Every BNSF employee participates in training throughout his or her career, and a significant portion of the technical training for Operations employees happens at the TTC. As BNSF continues to grow, the Safety & Technical Training group continues to rise to the challenge with commitment and creativity, and with a focus on contributing to a safe and highly skilled workforce.

“I’m continually impressed as I see BNSF employees, one after the other, rise to the occasion,” says Schafer. “From our staff at the TTC, to the craft experts who step forward from the field to pass on their expertise to future railroaders, it’s amazing to watch our team take charge and ensure that our employees are well-prepared for safely performing their duties each and every day.”

- Scott Schafer
  General Director, Technical Training
Please explain the technology “roadmap” that describes the major technology initiatives at BNSF.

A: BNSF is at a unique juncture where several key systems are due for refresh. The Transportation Support System (TSS), for example, provides input to 70 percent of our other systems. Combine the refresh need with advances in technology, and we have a great opportunity to deliver new systems that will help improve real-time decision-making, enhance cross-functional process efficiency and optimize our network, while supporting our network and volume growth.

In 2012, a technology roadmap was developed to illustrate the linkage and interdependencies of the multi-year technology investments that were needed. It identifies key projects built around five business themes: Customer, Service, Assets, Workforce and Finance/Corporate Services. For example, within the Asset theme, building a mechanical/material asset management system is an investment supporting the decision to insource locomotives. The roadmap highlights where business priorities and logically sequenced technology investments meet to create “Railroad 2020.”

What are some ways BNSF employees outside of TS can contribute to the roadmap’s development?

A: As many of you partner with us, think about areas where we could change processes to support our growing railroad. How can we use technology to work smarter? How do we help our customers do business with us easily? How do we help our customers do business with us easily? How do we anticipate their needs? How can we plan and execute the freight movement process more efficiently? How do we maximize the life of our rail assets? Technology is an enabler to help us answer all those questions.
One of the biggest projects underway is Service Modernization, where Operations, Marketing and TS are partnering to completely rebuild TSS. As you mentioned, TSS drives virtually all aspects of BNSF’s operation. Just how big is this project? What is the timeline and how will it benefit BNSF and its customers?

A: The Service Modernization initiative is significant and in its planning stages, with heavy coding slated in 2015. The scope includes service planning and freight movement. Waybilling, train scheduling, train tracking, yard/industry functions and crew management will be top priorities over the next three to five years.

With advanced technology, the new TSS will enable us to be more agile in responding to changing business demands and give us immediate access to better information to support decision-making. Features will include geographic map views, “what-if” simulations, improved analytics, mobile functions and much more. The new TSS will allow better visibility and more real-time information across key functions, such as hub, terminal and line operations.

Customers view information as part of our service, and we’ve long been committed to ensuring “ease of doing business.” How are we using technology to improve the customer experience?

A: A joint team that includes TS and Marketing has closely reviewed every step of the customer experience, from order planning through payment, and we’ve considered how technology can improve that experience. Our website is one key tool, and one of our 2014 initiatives is to update and streamline the customer screens and workflow. This project will continue into 2015 and will include expanding mobile options for customers. A new customer Web portal will integrate key customer data from numerous sources and provide a customized view based on commodity types and the customer’s role.

We are also implementing a new single source of customer data called Customer Hub that will unite customer information currently housed and duplicated in multiple systems, improving consistency and enhancing our ability to monitor and manage customer activity. This same hub will feed into other systems like TSS. This fall, we are also rolling out a new customer relationship management system developed by salesforce.com that will help Marketing and other teams manage interactions, events and opportunities with our customers.

We are aligning these customer initiatives with the service [TSS] and finance revenue modernization programs to create a more intuitive and streamlined workflow as we look horizontally across our workgroups. A consistent 360-degree view of the customer will improve the ease of doing business with BNSF by ensuring that desktop, tablet, mobile and our call center services all quickly guide customers to relevant and accurate information.

In a world that is becoming more and more mobile, how is TS ramping up to meet both employee and customer business needs? What new mobile apps have been released and what’s in development?

A: Today, our employees as well as our customers need instant access to data and the ability to respond quickly wherever they are. To meet this need, TS has developed several new mobile apps that are available in the Enterprise Mobile App Store accessed through a company-owned mobile smartphone or tablet device, or EOMD (Employee Owned Mobile Device). For example, these tools are currently available or will be rolling out soon:

MyApprovals – enables approvers of invoices, Procard expenses, workforce changes and appropriation (AFEs and CPARS) requests to perform these tasks on the go.

TYE Mobile – gives train, yard and engine (TYE) employees the ability to check their status or lineup standing, accept a train call, place a seniority displacement or update their contact info using their personal mobile devices.

eMESA Warehouse – allows users to receive requests for locomotive parts, fulfill these requests and update the transactions real-time.
eMESA Cores – provides a mobile front end to a new system that tracks uninstall, transport and repair of locomotive traction motors. This year it will be released to all Mechanical locations.

MobileDocs – allows users to subscribe to and store documents on their tablet, eliminating the need to carry printed documents. Docs are automatically updated to latest versions.

Coming soon is BNSF Yellow Pages, which will enable users to easily find people, places and things with searches by location and job function such as a Gillette, Wyo., trainmaster.

Q.: We’re hearing a lot about big data in the news. Does big data have any relevance at BNSF?

A.: Big data is getting a lot of attention in the news, but it is not entirely new to us. We’ve been managing large amounts of data and relying on heavy analytics for years. The latest technologies allow users to better manage and quickly connect various types of data (text, video, pictures, etc.). For instance, as BNSF expands its vast network of trackside sensors and detectors that identify potential track and equipment defects, we are deepening our ability to review the data, uncover patterns and use predictive analytics to prevent derailments or other unplanned outages. (See related story on page 12.)

A similar example is how we can compile a history of weather data and correlate it to track conditions and/or track volume to predict future expected conditions. We also can use video analytics to assess any number of conditions, such as missing or misplaced signs or vegetation growth to help our field team know where to focus.

Opportunities exist to leverage big data across many areas of our business, from Engineering and Mechanical to Marketing and Finance. As we move more and more to real-time collection and analysis of critical data, big data technologies allow us to be even more responsive to our business and, in turn, our customers.

BNSF recently shifted its email applications to a cloud-based system. What are the benefits? Are we working on other cloud-based applications?

A.: Moving our email to Microsoft’s data center in the “cloud” provides many benefits. Employees probably noticed an immediate increase in mailbox size and the ability to store more inbox mail. While that is helpful, the greater benefit is that we are able to leverage all the Microsoft cloud products included in this package, such as Lync, Yammer, OneDrive and SharePoint, which all “live” in the cloud. We have implemented portions of these, such as Lync, which you know as instant messaging and desktop sharing, but there are more features that we will be enabling in the near future.

This year, every employee who is issued a BNSF computer will be migrated to Office 2013, which is a precursor for access to OneDrive for Business. OneDrive allows users to save files in the cloud and access them from tablets, smartphones and other devices from anywhere. You can also edit an MS-Office file from a phone or tablet.

Q.: Cyber security has gotten a lot of attention at BNSF and in the media. What are we doing to ensure the security of BNSF systems and data? How can employees help?

A.: Everyone must take cyber security seriously. In TS, we take an offensive and defensive approach, starting with use of various technologies, including firewalls, identity access systems and software that watch our network 24/7. We hire specialized hacking firms (“good” hackers) to test our vulnerability to social engineering, hacking and targeted
attacks. We also partner with federal agencies to monitor cyber activity.

As BNSF employees, we have a responsibility to:

- Create strong passwords and never give them to anyone;
- Not click on links or open attachments in suspicious or unexpected emails;
- Not email confidential information over the Internet and question any use of confidential information; and
- Not connect unapproved devices to the BNSF network.

**Q:** If we look into the future, what might the company be doing differently in the 2020s based on the initiatives TS is undertaking now?

**A:** Our roadmap will drive a number of changes that will alter the way we work – and at a faster pace due to speed of innovation.

For our network, we will maximize reliability, allowing us to spend more time on offense and less on defense. We will use data from a vast array of fixed and mobile sensors to get a real-time view of our assets' condition and usage. Condition-based maintenance and engineering inspection systems will drive reliability in track and equipment, further optimizing maintenance practices. Through our service initiatives, we will have the ability to model and predict the network impact of day-to-day decisions such as holding or rerouting a train. Geography-based systems and video analytics will turn all kinds of data into images that are immediately actionable.

For our customers, GPS can identify real-time shipment status along with accurate ETAs. We will have one database for customers, assets and people that will “feed” other systems, eliminating inconsistencies. We will capture customers’ needs and proactively know any potential concerns and issues as well as opportunities.

For our employees, we will be able to get the information we need from wherever we are, with any device. Lugging paper documents is a thing of the past. Documents are automated, smart and accessible from wherever we need them. Instead of entering lots of data, information we need will be sent to us. Systems will predict what tomorrow will look like. We will be able to marry different sources of data for precision in day-to-day decision-making. Touch-, speech- and gesture-driven applications are in use.

The result of all of this is that our network should hit new records for safety, velocity and on-time performance. Working with each of you, we will continue to work hard and smart to provide a safe, reliable freight delivery service for our customers.

**Q:** The intranet is an essential tool for employees to access communication and the information they need to do their jobs. What enhancements are underway?

**A:** BNSF’s intranet has evolved and grown over time. It helps us do everything from booking travel to building and moving trains. With its growth, content can become hard to find. An intranet redesign project is underway to help make it easier to find information.

In addition, roles-based work pages (MyWork tab) have been developed for trainmasters, and we just rolled out similar tabs for yardmasters and terminal managers. These are based on the user’s job position and location, so when the user logs in, it displays relevant information such as the track window and crew van authorities for the specific terminal and subdivision, assigned SIRPs (Safety Issue Resolution Process) and other features. We will look at Engineering and Mechanical first-line supervisor roles in 2015.
Next-generation wayside-detection

Wayside detectors have been helping BNSF improve safety and service since hot-bearing detectors were first installed in the 1950s. Wayside detection is technology installed under, alongside, above or attached to BNSF track that finds defects in passing equipment, adding another layer of safety to prevent incidents.

The technologies “see, hear or feel” locomotives and railcars as they pass and determine if there are defects. Equipment issues that could indicate a defect include high-impact wheels – those that strike the rail with excessive force, damaging both the wheel and the rail – and noisy or overheated bearings. Detector technologies also look for missing, damaged or defective components.

Thanks in large part to these technologies, mechanical-caused reportable derailments, normalized by train miles, have dropped by 300 percent since 2000.

Here’s more about BNSF’s wayside-detector program, arguably the most extensive in the industry:

- There are 13 detector systems that provide defect data. The most well-known are the wheel-impact load detector (WILD), cracked-wheel and -axle detector, acoustic sensor and hot-bearing detectors.
- More than 2,000 detectors collect data 24/7 across the system.
- The 1,300-plus hot-bearing detectors are spaced roughly 25 miles apart.

Between 1,400 and 1,700 BNSF trains operate daily – moving more than 220,000 cars. Of these, only a very small number of railcars activate a wayside detector alarm, and most of those are low-level defects. When the Mechanical desk alerts the train crew and/or dispatcher about a potential defect identified by a wayside detector, BNSF procedures clearly outline the response, depending on the nature of the alert. Follow-up actions can range from immediately stopping the train for an inspection or setting out a defective car, to noting the need for additional inspections down the line.

The data collected from the detectors is analyzed by BNSF’s Mechanical Reliability Team, which is responsible for the wayside-detection program, including integrating and analyzing the data. Whether or not an immediate response is needed, BNSF experts at the Mechanical Desk and on the Condition-Based Maintenance team review the data for patterns and trends that can be used in improving procedures and developing rule criteria.

Infrared Technology
Excessive friction in wheels and bearings generates elevated temperatures that indicate a defect that, if not addressed, can result in catastrophic failure.

Force Detectors
It is normal for railcars to impart stable and balanced forces to the rail, but excessive impact forces or imbalanced forces in curves or straightaways indicate issues that may result in component damage or derailment.
technology enhances safety, service

“Even though our systems are relatively new, we continue to invest significant resources into making them better. Most of our legacy systems are less than 12 years old, but we’re improving them all the time by finding new ways to use their data,” says Ryan Miller, general director, Cars, Mechanical and Value Engineering.

Integrating detector data in a composite rules engine – a technology that associates readings from one detector with readings of another – has been one of the biggest breakthroughs. “We didn’t have the structure to integrate all the data coming in from detectors to give us a bigger picture about equipment health. Working with Technology Services and IBM, we will soon have tools that give us the ability to perform a much more powerful analysis on the detector data,” adds Miller.

For example, a detector technology like WILD might find a low-level defect. A different, though complementary, technology like a warm-bearing detector might also find a low-level defect. Using composite alarming, the combined defects trigger an actionable alarm where neither would have as a stand-alone technology.

“This application of the wayside technology is another step as we move toward predictive rather than reactive maintenance,” says Miller. “Once we are able to use defects to predict maintenance events, we can reduce online and unplanned set-outs of equipment to increase velocity and improve safety for responders without increasing risk of derailment.”

Augmenting manual inspections is another possible advancement in the use of wayside-detector technology. “By giving our inspectors additional clues on what to look for and where to look, and by providing terminals advance notice of required repairs, we think wayside detection can bring even more benefits to BNSF,” Miller says. “That includes integrating the detector data into other systems, both within the Mechanical Department and with our partners in other departments.”

At its core, wayside technology focuses on derailment prevention and improved safety for both our employees and our communities. With the advances underway, BNSF’s wayside network will become an even more valuable tool to BNSF operations and customers, further enhancing safety while improving processes and increasing velocity across the system.
How Approaching Others About Safety is making a difference

“I am proud of our safety record out here. I take it as my personal duty to make sure that everybody – on my truck and anybody I’m working with any day – does things safely, and we go home safely. That’s what Approaching Others is all about.”

Scott Woods,
Section Truck Driver,
Galesburg, Ill.

“As a new guy, it’s been great having more seasoned employees show me exactly how to stay safe. I think Approaching Others is a big part of that.”

Troy Richmeier,
Maintainer II,
Telecommunications,
Alliance, Neb.

“I think Approaching Others is fantastic because it lets us check each other. We all work together as a family.”

Anthony Hale,
IED, Leadman,
Chicago
NSF first rolled out Approaching Others About Safety in 2013, and since then the majority of BNSF employees have participated in the training, continually building and strengthening the core concepts.

Approaching Others focuses on employees’ commitment to speak up and talk to one another about safety. During the first two years, the emphasis has been on recognizing exposures that account for 97 percent of serious and fatal injuries on BNSF (see box), identifying risk and understanding how to control it, as well as learning ways to give and receive effective feedback.

Designed with extensive input from craft employees, Approaching Others helps employees understand the importance of providing feedback when someone is working at-risk, as well as using positive feedback to reinforce when someone is working safely.

Work is nearly complete on the 2015 training program, and once again it was developed with extensive input from employees and leaders from many locations and departments. The class will bring back the core concepts from previous years and introduce a new approach to more effectively identify exposure and potential risks. It will also encourage employees to take their safety commitment home to their family and into their hobbies.

Exposures that contribute to 97 percent of injuries and incidents at BNSF:

- Line of fire/release of energy
- Pinch points
- Ascending/descending
- Walking/path of travel
- Life-saving processes

Employees are encouraged to pause the work when conditions change and take the time to rebrief the task or activity.

“Approaching Others works best if you make yourself approachable. I do that with the guys that I see every day. We have new people come in all the time, but I make it a point to learn their name, and I always address them by their first name.”

Steve Jewell,
Signal Maintainer,
Williams, Ariz.

“We’ve worked safely for years by Approaching Others, and I definitely believe 100 percent that it works. If my co-workers were to see me doing something that wasn’t safe, they would approach me. And they have no problem taking input from me when I approach them about working safely.”

Dennis Sibley,
Laborer/Hostler/Helper,
Galesburg, Ill.

“If I feel that a brother or sister out on the yard is doing something unsafe, I try to approach and together we determine if it can be done in a safer manner.”

D’Artaignan (Dart) LeDuke,
Pipefitter,
Galesburg, Ill.

“We all watch out for each other, we’ve all got each other’s back. Especially if someone has a bad day – and everyone has bad days – we’re not afraid to tell each other, ‘Hey, I’m not right today, my mind is somewhere else. Watch out for me.’”

Timothy Roberts,
Mechanic, Structures,
Kingman, Ariz.

“If anybody has something to say, nobody is afraid to speak up. We are a tight-knit group in Albuquerque, and Approaching Others emphasizes what we do here.”

Jennifer Archibeque-Cordova,
Switchman/Conductor,
Albuquerque, N.M.
“The response to the program has been extremely positive,” says Erika Plumb, senior manager, Field Safety Support, Safety & Technical Training. “Employees say they are growing more confident with approaching each other and that it is becoming the norm. It’s very exciting to hear. This is evidence that our safety culture is evolving. Safety is not just about what we do, it’s a part of who we are. This program has really helped everyone to understand what that means.”

Some of the concepts employees will be discussing in the 2015 training include:

- Safety culture
- Identifying exposure and risk through a new approach
- Pausing the work to rebrief
- The benefits of debriefing
- Using ACT (Approach, Consider, Thank) to understand the impact of our interactions
- The true potential of our Job Safety Briefings

“Approaching Others About Safety is intended to not only make the workplace safer, it also has the effect of creating a more personal work environment,” says Phil Mullen, director, Safety-Transportation. “When you know a co-worker is looking out for you, it can make the rough spots a little easier and professional relationships stronger.”

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“It used to be, ‘We’re the Track Department.’ ‘We’re the Signal Department.’ When I came here, I would help the track supervisor, I would help the foreman on the sections, and now it has kind of become culture for all of us to help everybody.”

Shawn Maestas,
Signal Inspector,
Holbrook, Ariz.

“Using Approaching Others, I know that somebody can come and tell me, even with my years of experience, that I’m doing something wrong or could do a job more safely, that they could point that out, and show me a better way.”

Timothy D. Smith,
Machinist,
Galesburg, Ill.

“I totally believe in Approaching Others. It’s empowering, because you don’t have to worry about, ‘How am I going to approach this individual?’ Now, you just instinctively know what to say and how to say it. With the training, they understand where you’re coming from. We handle our business and get back to work.”

Jay Garrison,
Switchman,
Galesburg, Ill.

“It’s definitely OK in this yard to approach others and help them out.”

Kevin Pierce,
Machinist,
Galesburg, Ill.

“You can approach people about something when they do a good job, and give them positive feedback. Then when they do something that’s risky, they don’t dread seeing you.”

Roger Cadden,
Locomotive Engineer,
Amory, Miss.
In the company’s first-ever Twitter contest, BNSF asked California high school students and teachers to get the word out about safety around railroad tracks. The contest was held in coordination with the Riverside (Calif.) Unified School District, Operation Lifesaver and the Southern California Rail Safety team.

Five public high schools in Riverside participated: Arlington, King, North, Poly and Ramona. The winning school with the most tweets promoting rail safety was Arlington, with nearly 80,000 tweets. The school received a $15,000 check at a special awards presentation. Second-place King received $7,500 and third-place Ramona received $3,500. North and Poly were awarded $2,000 each. Participants were also eligible for “chance-to-win” prizes such as Apple iPads, Kindle Fires, Sony PlayStation Portables or similar technology. The safety campaign ran the entire month of September to coincide with the beginning of the school year and the city’s Rail Safety Month. Twitter recorded about 185,000 tweets during the campaign.

“This contest was a tremendous success in many ways,” says Steve Neubauer, BNSF’s director, Field Safety Support. “The students’ creativity was amazing. We saw awesome videos and great pictures. This is the first time we have used social media to promote an important safety message in a contest setting.”

Safety messages included “Look, Listen and Live,” “Stay Off, Stay Away, Stay Alive,” “I pledge to stay safe around railroad tracks” and “See Tracks? Think Train!”

Students posted their messages on their personal Twitter accounts, and each school had a unique hashtag in order for their tweets to be counted. Schools could earn extra-credit points for other activities, such as pep rallies, videos or safety booths.

“BNSF was pleased to support our local schools here in Riverside, while educating students and encouraging them to share messages about safety near railroad tracks,” says Lena Kent, director, Public Affairs. “We hope that students learned from their peers to stay alert, obey signs, and understand the danger of trying to beat trains and trespassing on railroad rights of way.”

To view tweets from the contest, log in to Twitter and enter #stayofftherails into the search field.
BNSF has always had a strong commitment to training emergency and hazmat responders. Annually, BNSF trains an average of 3,500 local emergency responders in communities across its network.

This year, a record 6,000 first responders are being trained by BNSF in more than 100 communities across the network as well as about 750 attending a special class at the Transportation Technology Center, Inc.’s (TTCI) Security and Emergency Response Training Center (SERTC) in Pueblo, Colo.

This additional layer of training, funded by the rail industry, is a three-day class at SERTC that prepares first responders for incidents that involve crude by rail shipments. The industry is spending in excess of $5 million on this hazmat training.

“We are committed to preparing community emergency responders to any incidents on BNSF,” says Pat Brady, director, Hazardous Materials-Special Operations. “This is the first time the railroad industry has created training specifically for crude oil incidents, and the takeaway for hundreds of first responders will be to ensure that they have the knowledge and expertise to be ready should they need to respond.”

Approximately 1,500 responders nationwide are being trained at SERTC. All the railroads were allocated a certain number of training spots. BNSF received spots for 750 students and is covering the tuition and travel expenses for the BNSF-sponsored responder spots.

The classes started this summer and will continue through 2014. The 24 hours of instruction cover several topics, including a history of crude oil; the chemical and physical properties of the different crude oils; tank car design and construction; conducting a basic site and damage assessment; planning for crude oil incidents and more.

Sixty percent of the class is devoted to field activities conducted at the TTCI. Practical demonstrations include crude oil fires, advanced firefighter techniques and the application of foam to crude oil incidents. The class culminates in a full-scale derailment exercise.
Congratulations to the 2015 calendar photo contest winners, whose shots captured the diversity of BNSF’s network and the commodities we handle. Thank you to everyone who submitted entries.

Photographs by the following employees are featured in the 2015 photo calendar:

- **Ed Chapman**, director, Hazardous Materials, Fort Worth
- **Kevin Dorn**, conductor, Stockton, Calif.
- **Nathan Muhlethaler**, manager, Field Training, Richmond, Calif.
- **David Plies**, locomotive engineer, San Bernardino, Calif.
- **Mike Repp**, trainmaster, Vancouver, Wash.
- **Scott Schrage**, maintenance welder, Lincoln, Neb.
- **Ted Smith-Peterson**, conductor, Stockton, Calif.
- **Clarke Sutphin**, locomotive engineer, Laurel, Mont.
- **Shawn Varner**, conductor, Alliance, Neb.
- **Gregory Weirich**, locomotive engineer, Everett, Wash.

Two winning entries, including the grand prize-winning shot, were submitted by Mike Repp, a trainmaster at Vancouver, Wash. Gregory Weirich, a locomotive engineer at Everett, Wash., also submitted two winning entries.

All BNSF employees receive a complimentary calendar, which was mailed to homes in October.

Conductor Ted Smith-Peterson of Stockton, Calif., also submitted a second winning entry in this year’s contest. His photo of an intermodal train near Mariposa, Calif., will be featured on the one-page calendar for 2015.
Today, of course, the world measures time digitally, and advanced signal technology and telecommunications systems help ensure safe movement of trains. But historically, railroads played a pivotal role in the understanding and measurement of time – and that influence is still felt today.

Making time what it is today

U.S. railroads actually helped originate the concept of time zones in the late 19th century. Prior to that, time was localized to individual communities based on when the sun reached its apex at noon. So, for every degree of longitude, there was a four-minute difference in time, and each community had its own timekeeping. These small differences were not an issue in the days when travel on foot, horseback or stagecoach took weeks or months. But, as railroads enabled travel from one town to another in a matter of hours, managing train schedules required much more precision and consistency.

So the railroads created four national time zones – which rolled out officially on Nov. 18, 1883. All locations within a time zone shared the same time, with a one-hour difference in each zone from east to west. Although the public quickly adopted the concept, it took Congress 35 years to pass the Standard Time Act of 1918, which mandated the use of time zones by law.

Use of regulated timepieces

While the implementation of time zones improved the efficiency and safety of railroads, more accurate timepieces were also needed. A tragic train collision on April 18, 1891, near Kipton, Ohio, that resulted in several fatalities prompted an investigation underscoring the need for accurate, reliable clocks and watches in railroad operations.

A rail industry committee was established to outline specifications for “railroad-approved” watches. Railroad-approved watches were high quality and made from...
premium materials to ensure the most accurate time measurement. Specifications included white dials with contrasting black numbers and hands, and numbers rather than Roman numerals.

Additional procedures also required the regular inspection of watches for accuracy. Railroad rules mandated that certain employees, including train dispatchers, conductors, enginemen and brakemen, have an approved watch and current watch inspection certification cards with them while on duty.

A similar set of rules is still in effect for on-duty crew members that requires they have a watch that is in good working condition and reliable, that displays hours, minutes and seconds, and cannot vary from the correct time by more than 30 seconds. While train crew members are required to have a watch, other employees must only have access to a watch or a clock.

Today, these timepieces are valuable collectibles – and often treasured heirlooms within railroad families. At BNSF, Russ Bryan, manager, Load and Ride Solutions, Resource Protection, inherited several antique railroad watches.

“My family has more than 225 years of railroad service combined,” he says. “These watches are cherished family heirlooms with good reason. They were an investment in safety that my family members came to rely upon. Some of us still have fond memories of seeing our father or grandfather wearing his railroad watch that seemed to almost be a part of him.”

**Seth Thomas regulators**

In addition to requiring many employees to carry watches, railroads also installed accurate clocks in major train depots to measure the correct standard time.

One of the most esteemed clockmakers of the 19th century was Seth Thomas Sons & Co. Known for producing exceptionally accurate clocks and regulators, Seth Thomas was recognized for its advanced technology and beautifully crafted oak, mahogany or walnut cases. Like the railroad watches, these clocks are now considered collectors’ items, and some are quite valuable.

Many antique railroad clocks and regulators are housed at BNSF headquarters in Fort Worth. The inventory includes nearly 200 items, ranging from standing floor clocks to long wall clocks and even small “schoolhouse” models, which are half the size of long wall clocks and usually have round or hexagonal faces. While most were produced by Seth Thomas, some upscale models were produced by E. Howard & Co.

Although these clocks are antiques, they are still reliable. “I find it impressive that so few of these [clocks] need maintenance,” says Sally King, BNSF curator. “Probably fewer than a dozen a year need work. For 100-year-old mechanical devices, they are surprisingly dependable and accurate.”

Time after time.

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**NO TIME TO LOSE**

The official time for the United States is regulated by the National Institute of Standards and Technology (NIST), formerly the National Bureau of Standards. Using the NIST-F1, a cesium fountain clock, the time is so precise it is not expected to lose or gain a second in nearly 100 million years. The official time is available via the NIST website and an automated radio broadcast from government radio station WWV in Boulder, Colo. Dial 303-499-7111 to listen to the broadcast.

This Seth Thomas clock can be found in the Visitors Center at BNSF’s Fort Worth headquarters.

The watches on this page and on the opposite page are from Russ Bryan’s family collection.
While donations continue to come in, this effort raised more than $6,000 that will help the families of the three killed. “It was a good cause to support and a good opportunity for team building,” said Superintendent of Operations Daniel Munson. “The mud run was challenging, but everyone finished. It was worth the hard work.”

Special agents represent railroad
Senior Special Agent Francisco Lopez and Special Agent Jeff Kosiek participated in the third annual Western Springs, Ill., Car and Motorcycle Show benefiting the Illinois Special Olympics. Law enforcement agencies from across the state attend the fundraising event for Special Olympics, which includes a torch run and vehicle displays.

Both appreciated the opportunity to support people with special needs, while also continuing to strengthen community relationships. The event also gave the agents an opportunity to educate the public about grade crossing safety.

Giving back close to home
Bakersfield, Calif., employees came together for a benefit golf tournament supporting Rett syndrome victims. Organized by Josh Faulkner, locomotive engineer, the event included a catered meal and prizes.

Rett syndrome is a disorder that affects girls almost exclusively, characterized by a slowing of development, problems with walking and hand use, seizures and intellectual disability.

Faulkner’s best friend’s daughter is afflicted with the disorder, which is one reason why he helped organize the event, contact donors, and arrange for trophies and catering. Mike Ramsey, locomotive engineer, also contacted business donors.

Teaming up for MS 150
Carla Jacobson, Northtown (Minneapolis) administrative assistant, teamed up with Roger McGowan, electrician, and other diesel shop employees for the C.H. Robinson MS 150 Ride, which raises money for the National Multiple Sclerosis Society.

McGowan started the local event and has since participated nearly 20 times. He collects donations by selling snacks at the shop. Each race participant is expected to raise a minimum of $300 in pledges or other support. “A lot of people make it a point to walk over to Roger to buy their snacks,” Jacobson said. “It’s an honor system where they donate what they can, and it has worked well.”

Participants ride 150 miles during two days on the relatively flat terrain. The ride starts in Proctor and ends at Century College in White Bear Lake, Minn. Rest stops are situated every 12 miles for the bicyclists, and cheering crowds are spread throughout the race. “You hear a lot of ‘thank yous,’” Jacobson said. “There are lots of people who ride who have MS, and a lot of people who have MS can’t ride, so when you’re struggling, you think of them and buck up a little.”
It's time for high school seniors to apply for college scholarships, including those offered through the BNSF Railway Foundation Scholarship Program. Once again, the Foundation will award up to 50 scholarships for the 2015-2016 college year.

Applicants will need to go online to fill out an application request. (Details included below.) Here are answers to the most frequently asked questions.

Who is eligible?

The program is available to current high school seniors who are the dependent sons, daughters or stepchildren of full-time BNSF employees or of retired, furloughed, disabled or deceased employees of BNSF or its predecessor companies. Full-time employees must have at least two years of service as of Dec. 1, 2014, and must still be employed by BNSF when winners are selected in May. Retired, furloughed, disabled or deceased employees must have completed the two-year requirement prior to ending their service with BNSF.

When can students begin the application process?

The online application process may be accessed beginning Dec. 1, 2014, by going directly to the International Scholarship and Tuition Services (ISTS) link: https://aim.applyists.net/BNSF

When are submissions due?

Completed applications, including ACT or SAT scores, must be submitted no later than March 4, 2015. The student or applicant is responsible for making sure their application is complete, including all required documentation. Since the Foundation is not able to keep track of students’ progress or the completeness of an application, applicants MUST follow up with ISTS. ISTS may not contact students who have incomplete submissions as there are many more applications than scholarships available. An accurate and complete submission is part of the competition for the awards.

How many scholarships are available?

Up to 50 scholarships of at least $2,500 each will be awarded to full-time students enrolled in accredited four-year U.S. colleges/universities. Of these, up to 10 scholarships, at $5,000 each, are available through the National Merit Scholarship Corporation (NMSC). If not all 10 NMSC scholarships are awarded, the balance will be converted to ISTS scholarships at $2,500 each. All the scholarships are renewable for three additional years, with satisfactory academic progress. The BNSF Railway Foundation National Merit winners are selected by the NMSC and neither BNSF nor the Foundation has input in the selection of winners.

Who is eligible for National Merit Scholarships?

To be eligible, students must have taken the PSAT in their junior year. After selecting finalists, the NMSC then notifies sponsors, such as BNSF, about award acceptances and provides scholarship certificates for presentation to winners. Neither BNSF Railway nor BNSF Railway Foundation has any input in the selection of winners.

How are winners selected?

For the scholarships handled by ISTS, winners are selected largely on the basis of academic merit, with consideration for past academic performance, leadership of and participation in school and community activities, and an essay. ACT or SAT scores are acceptable. Guidance counselors routinely supply the required test scores on the high school records accompanying the applications. As mandated by federal law, neither BNSF Railway nor BNSF Railway Foundation has any input in the selection of winners. All winners are screened, reviewed and selected by independent parties through ISTS or NMSC. The Foundation is unaware of who has applied until a preliminary list of winners is sent to the Foundation for confirmation of eligibility based on the parent’s employment status as described in the “Who is Eligible” section.

Can more than one scholarship be awarded to an individual?

No. A student cannot win more than one scholarship funded by the BNSF Railway Foundation. Since neither award is guaranteed, it is recommended that National Merit Finalists apply for the scholarships handled by ISTS. Those who win a National Merit scholarship are automatically withdrawn from consideration for scholarships handled by ISTS.

How do I get an application?

ISTS no longer accepts or uses paper applications. To apply for a scholarship, the student must go directly to the ISTS website through the link – https://aim.applyists.net/BNSF – and follow the instructions. If asked to enter an access key, please use BNSF.

The BNSF Railway Foundation is not able to answer any questions regarding specific requirements, timeline or payment schedules. Please direct any questions to ISTS or to NMSC through the high school guidance counselor.

What is the contact information for ISTS?

- Phone: 615-777-3750
- Website: https://aim.applyists.net/BNSF
- E-mail: contactus@applyists.com
GOOD SAVES
If someone on your team goes above and beyond for a UPS shipment this peak season, send us the details at goodsave@BNSF.com

BUILD DELIVER BELIEVE
ON THE TRADITION ON THE PROMISE IN THE TEAM

PEAK 2014 DELIVERING ON THE PROMISE

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